

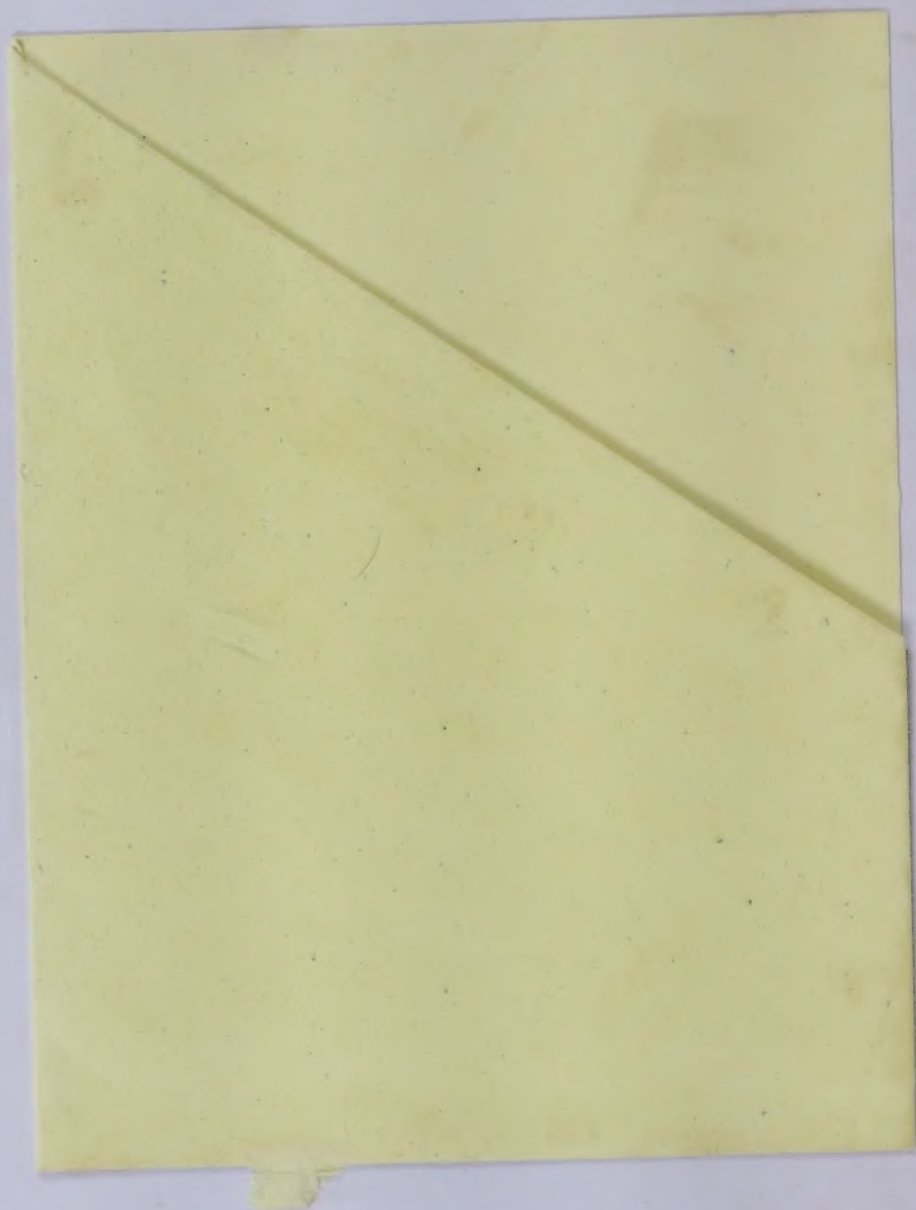
Menus for Low-Cost Balanced Diets and School-Lunch Programmes

SUITABLE FOR NORTH INDIA



NATIONAL INSTITUTE OF NUTRITION
INDIAN COUNCIL OF MEDICAL RESEARCH
HYDERABAD, INDIA

1984



LOW-COST BALANCED DIETS AND SCHOOL-LUNCH PROGRAMMES

Suitable for South India

COMMUNITY HEALTH CELL
326, V Main, I Block
Koramangala
Bangalore-560034
India

NATIONAL INSTITUTE OF NUTRITION
Indian Council of Medical Research
HYDERABAD, INDIA

1984

CH145

216

COMMUNITY HEALTH CELL

47/1, (First Floor, St. Marks Road,

Bangalore - 560 001.

FIRST PUBLISHED 1959

REPRINTED 1966

REPRINTED 1973

SECOND EDITION 1977

DIAMOND JUBILEE REPRINT 1978

REPRINTED 1984

PREFACE TO SECOND EDITION

The booklet entitled "Menus for Low-cost Balanced Diets and School Lunch Programmes" suitable for North India brought out by the National Institute of Nutrition has been quite popular.

The Nutrition Advisory Committee has revised the recommended allowance of nutrients for Indians in 1968. The data presented in the book which was originally brought out in 1959 have now been updated in the light of these recommendations. Also since the prices of foodstuffs have been changing over the years, information with regard to cost of the various preparations has been worked out again based on the prices prevailing in Hyderabad in recent months.

We hope that the booklet will continue to be a useful source material for dietitians, social workers and nutritionists all over the country.

National Institute of Nutrition,
Hyderabad.

19 March 1977.

S. G. SRIKANTIA
Director.

PREFACE TO FIRST EDITION

A large body of scientific information which could be utilised for improving the dietaries in India has become available as a result of the efforts of research workers in India. Unfortunately, the people have not been in a position to make much use of it for want of authoritative publications which could enable the accumulated knowledge to be put to practical use. The Nutrition Research Laboratories of the Indian Council of Medical Research compiled nearly twenty years ago the results of analysis of Indian foodstuffs which have been published by the Government of India as the popularly known Health Bulletin 23. The bulletin not only gives information on the nutritive value of a large variety of Indian foodstuffs but also suggestions for the planning of satisfactory diets.

The present publication is designed to help the public in North India by giving practical hints on the preparation of nutritious snacks and meals. The preparations are of the type well-known to our people in North India and have been so designed as to be within the reach of most. It is hoped that this brochure will achieve the object of making the dietaries sufficiently varied and what is more important, provide a basis for balancing the diets from the nutritional standpoint.

New Delhi,
10th September 1959.

C. G. PANDIT
Director

INTRODUCTION

A publication entitled "*Menus for low cost balanced diets and school lunch programmes, suitable for South India*" was prepared in 1958. The purpose of the publication was to provide examples of nutritious dishes which could be easily prepared by using cheap and locally available foodstuffs. The text was intended as a practical guide to the housewife as well as the school authorities to improve the nutritive quality of the diet of adults and school-going children of South India.

It is well-known that the general pattern of diet in Uttar Pradesh and the Punjab in the North differs in certain respects from that obtaining in the Southern States. This does not, however, rule out the fact that people of low economic status in the North subsist on a relatively inadequate diet; hence the need for improving northern dietaries is as urgent as that for the South. The present brochure is prepared on lines similar to the previous one so that the recipes suggested could be employed by people of these regions in the preparation of nutritious and cheap menus, resulting in an improvement in the nutritional quality of the diets without any great additional economic strain.

The text is divided into two parts; Part I deals with recipes suitable for adoption at home and Part II with those suitable for mid-day feeding of school children.

The names of all the preparations are given in English. Hindi equivalents of foodstuffs employed in drawing up the recipes are given in the Appendix.

Since the menus are mainly intended for the low-income groups, care has been taken to incorporate the items of food which are generally in daily use in U. P. and Punjab. A few dishes which are common to other parts of the country but which have been introduced into U. P., and Punjab during recent years and known to be relished by sections of the population, are also included. It is felt that the popularisation of these dishes will not in any way disturb the dietary habits of the people and will be most welcome. The recipes have been so framed that not only is the cooking procedure simplified but also the cost of the food per adult is not more about Rs. 1.75 per day.

The menus suggested are generally based on the following foodstuffs and the amounts (in grams) are shown against each:

	gm
Cereals	... 425
Pulses	... 70
Green leafy vegetables	... 100
Other vegetables	... 75
Oil	... 30
Jaggery or Sugar	... 30
Milk	... 115
Fruits	... 30

The amount of foodstuffs given in the above list is estimated to provide about 2400 calories and 60-70 gm. of protein. It may be pointed out, however, that the intake of calories, protein and other nutrients obtainable from the above foodstuffs cannot be considered to be ideal but under the existing economic conditions, it provides all the nutrients well above the margin of safety. Hence it is important to note that in following the instructions in the preparation of the menus, the quantities of some the foodstuffs mentioned in bold letters in each of the recipes shall not be reduced further. On the other hand, the amounts of other ingredients can be changed according to taste.

For those who can afford the extra cost, the following modifications are recommended. These will provide more variety and avoid monotony in the diet. But the cost will go up to about Rs. 2-00 to Rs. 3-00 per day.

The improvements suggested are :

1. Retain the intake of cereal around 400 g.
2. Include at least one egg per day.
3. Increase the intake of milk from 115 ml. to 200 ml. if vegetarian, and added 30 g. of meat if non-vegetarian

A number of alternatives have been provided so that there is variety in the food. The information about these alternatives is provided in the Section EXCHANGE LISTS (Page 3.)

The daily diet will consist of two principal meals and one light meal taken as snack. In the selection of a menu for the principal meals, one item should be chosen from each of A, B & C in Exchange list I. Buttermilk (equivalent to about 115 ml. of milk) should be included in at least one principal meal. Instead of the buttermilk, curd or milk can be used. For a light meal one item should be chosen from the Exchange list II. This may be taken with tea or coffee prepared with a little milk and jaggery.

EXCHANGE LISTS •

EXCHANGE LIST I

FOR PRINCIPAL MEALS

A. Cereal Exchange

- (i) Wheat (1 and 2)
- (ii) Bengal gram (3)
- (iii) Jowar, Bajra, Maize (4)
- (iv) Rice (5)

It is advised that the same cereal should not be used for both the principal meals in the day.

B Pulse and Vegetable Exchange

- (i) Dal (6), Mint chutney (7), Vegetable bhujia (8)
- (ii) Dal with calabash cucumber (9), Charla (10)
- (iii) Curry (11), Green leafy vegetable bhurjee (12)
- (iv) Vadian (13), Turnips (14)
- (v) Rajmah (15), Raita (16)
- (vi) Dal with green leafy vegetables (17), Vegetable bhujia (8)
- (vii) Brinjal bhurtha (18), and Dal (6)
- (viii) Rape leaves (19), Raita (16)

C Fruit Exchange

One ripe banana or mango or orange or guava.

EXCHANGE LIST II

FOR LIGHT MEALS

Snack Exchange

- (i) Wheat porridge (20)
- (ii) Wheat pulse ladoo (21)
- (iii) Khicheri (22)
- (iv) Pakodai (23)
- (v) Dosai (24)
- (vi) Potato gulabjamun (25)
- (vii) Aalu chole (27)
- (viii) Dahi vadai (26)
- (ix) Calabash cucumber halwa (28)
- (x) Basen omelete (29)
- (ix) Marunda (30)
- (xii) Poha (31)
- (xiii) Fruit chaat (32)
- (xiv) Pura (33)
- (xv) Sago vadai (23)
- (xvi) Khaman dhokla (35)
- (xviii) Green gram ladoo (36)
- (xviii) Sprouted green gram with jaggery (37)
- (xix) Dahi chidwa (38)
- (xx) Sprouted green gram (39)
- (xxi) Sweet potato pura (40)

* The numerals within parentheses refer to the number in the "List of Recipes" Details of preparation are also given in the same Section.

RECIPES

Exchange List 1

1. CHAPATIE

	gm
Wheat Flour	... 200
Oil or ghee (Optional)	... 15-30
Water	... as required

Method: Wheat flour is kneaded into dough with water. Small portion of dough is made into chapatie with rolling board and pin; placed on a flat iron pan heated on fire and the side turned when slightly baked. When both sides are slightly baked, it is roasted over burning charcoal or puffed with slight pressure with cloth. If oil is to be added, chapatie is rolled along with half a teaspoonful of oil and when one side is cooked, half a teaspoonful more of oil is added and chapatie fried from both sides.

The kneaded dough can be kept over night and 'Khamiri Roti' can be cooked just like ordinary chapatie.

2. TANDOOR KI ROTI

	gm
Wheat Flour	... 200
Ghee or butter (Optional)	... 15-30
Water	... as required

Method: Wheat flour is kneaded into soft dough and divided into small portions. The 'Tandoor' (big fire place made of mud) is heated by burning fire wood in it. Chapaties are made with hands using water and are stuck to innersides of hot 'Tandoor.' Chapaties are removed with cloth, when ready.

3. MISSI ROTI

	gm
Bengal Gram Flour	... 85
Wheat Flour	... 115
Fenugreek leaves or soya leaves	... 100
Onions	... 30
Green chillies	... 5
Oil	... 30

Salt	...	to taste
Water	...	as required

Method: All ingredients, except oil are mixed and kneaded into dough. Small portions of dough are made into chapatie on flat board with rolling pin and placed on heated iron pan. Chapatie is turned when slightly baked; half a teaspoonful of oil is poured and chapatie fried on both sides. It can also be cooked in Tandoor.

4. ROTI

		gm
Maize or Bajra or Jowar or Ragi Flour	...	200
Oil	...	30
Celery seeds	...	2
Salt	...	to taste
Hot Water	...	as required

Method: Flour and celery seeds are mixed with a little salt and divided into three portions; hot water in sufficient quantity is added gradually to one portion and kneaded for about five minutes to make into a dough. Kneaded dough is made into balls and then into chapties placed on a heated iron pan smeared with a little oil and spread with fingers. When cooked, a little oil is poured over uncooked side, turned and cooked. Similarly two more roties are made one after the other from the two remaining portions.

5. COOKED CEREALS

		gm
Wheat or Rice or Jowar (Whole grain)	...	200
Water	...	as required

Method: Rice is washed once or twice with minimal quantities of water, then boiled in just sufficient water till cooked.

Other Cereals are pounded in a mortar till bran, husk, chaff etc. are released, winnowed free of bran etc., and the cleaned grain broken and boiled in just sufficient water till cooked.

6. DAL

Black Gram Dal	...	35
Bengal Gram Dal	...	35
Turmeric	...	1
Chillie powder	...	1
Onion	...	5
Ginger	...	2
Garam masala*	...	2
Oil	...	1
Salt	...	to taste
Water	...	as required

Method : The two dals are cleaned and cooked in water with salt, chillie powder and turmeric till very soft and semi-solid, care being taken to see that grains do not break; Chopped onion and ginger fried in oil are added to hot dal. 'garam masala' is then sprinkled over it.

7. MINT CHUTNEY

		gm
Mint	...	50
Onion	...	20
Green chillies	...	3
Green mango or dried pomegranate seeds	...	3
Salt	...	to taste

Method : All vegetables are washed, cut and ground together on a grinding stone with the addition of salt.

8. VEGETABLE BHUJIA

		gm
Brinjal or Cauliflower or Cabbage or Calabash Cucumber or Ladies Fingers or Tinda	...	75
Oil	...	5
Onion	...	15
Ginger (only for cauliflower)	...	3
Chillie powder	...	1
Coriander leaves	...	1
Turmeric	...	1
Salt	...	to taste

* The preparation 'garam masala' is given on page 12.

Method : Sliced ginger and onions are fried in oil till golden brown; vegetable is washed and cut, salt, turmeric and chillie powder added and cooked on slow fire till soft. Chopped coriander leaves are added and the vegetable fried till all water is absorbed. Garam masala is sprinkled after removing from fire.

9. DAL WITH CALABASH CUCUMBER

	gm
Bengal Gram Dal	... 30
Calabash cucumber	... 75
Chillie powder	... 1
Oil or hydrogenated fat	... 3
Cumin	... 1
Turmeric	... 1
Garam masala	... 1
Salt	... to taste
Water	... as required

Method : Dal is cleaned and cooked in water till slightly soft, small pieces of calabash cucumber along with salt, chillie powder and turmeric are added and cooked till very soft and semi-solid in consistency; cumin is fried in oil and added to the above. Then garam masala is sprinkled over.

10. SHARLA

	gm
Small Potatoes	... 75
Oil	... 3
Chillie powder	... 1
Garam masala	... 1
Salt	... to taste
Water	... as required

Method : Chillie powder is slightly fried in hot oil, whole potatoes and salt are added and cooked with a little water till soft; fried for a little while and garam masala is sprinkled.

11. CURRY

	gm
Bengal Gram Dal Flour	... 20
Butter milk	... 600
Chillie powder	... 2
Oil	... 3
Turmeric	... 1
Coriander seeds	... 30
Onions	... 1
Garam masala	... 1
Salt	... to taste
Water	... as required
*Pakodai (Optional)	... Ten

Method: Bengal gram dal flour is mixed with buttermilk salt, turmeric, chillie powder and the mixture is kept aside. Sliced onions and coriander seeds are fried in oil and mixed with the above. Plenty of water is added to it and cooked, stirring all the time till thick, and till the raw flavour disappears. Garam masala is sprinkled. Fried pakodai may be added about five minutes before removing from fire.

12. GREEN LEAFY VEGETABLE BHURJEE

	gm
Fenugreek Leaves or Spinach or Bathua or	... 100
Cholai or Rape Leaves	
Potatoes	... 75
Green chillies	... 3
Oil	... 3
Salt	... to taste

Method: Sliced green chillies are fried in oil; green leafy vegetables are washed and cut, small pieces of potatoes and salt are added to it, covered and cooked on slow fire. Frying is continued for a few more minutes after the water is absorbed and the vegetables become soft.

13. VADIAN CURRY

	gm
*Vadian	30
Potatoes	75
Cumin	1
Turmeric	1
Garam masala	1
Oil or hydrogenated fat	5
Salt	to taste
Water	as required

Method: Vadian are fried in oil and kept aside; cumin is fried in the same oil and potatoes, turmeric and salt are added and cooked till potatoes are half done; then the vadian are added and cooked till soft and a little gravy remains. Garam masala is sprinkled finally.

14. TURNIPS

	gm
Turnips	75
Ginger	2
Oil	2
Turmeric	1
Green chillies	2
Coriander leaves	1
Garam masala	1
Wheat flour or maize flour	3
Sugar (Optional)	1
Salt	to taste
Water	as required

Method: Turnips are peeled, cut and cooked in water till soft; extra water is decanted; salt, turmeric and chilles are added and the whole is mashed with a ladle till no solid pieces are left. Sugar and maize flour are added and allowed to cook for a few minutes. Sliced onion and ginger fried in oil are added to the vegetable. Chopped coriander leaves and garam masala are sprinkled over.

* The preparation of Vadian is given on page 12.

15. RAJMAH

	gm
Rajmah or Rawan	... 55
Onion	... 30
Tomato	... 15
Chillie powder	... 2
Turmeric	... 1
Ginger	... 3
Oil	... 3
Garam masala	... 1
Salt	... to taste
Water	... as required

Method : Cleaned rajmah is soaked overnight, boiled till soft and kept aside. Ground onion and ginger are fried in oil, chopped tomato added and fried, then added to boiled rajmah along with rest of ingredients (except garam masala) and cooked for a few minutes. Garam masala is finally sprinkled. The final preparation should have a little gravy

Instead of rajmah, a mixture of equal quantities of rajmah and whole black gram may be used ; in such a case, onion and ginger should be chopped and not ground. No turmeric is added to this dal.

16. RAITA

	gm
Curd	... 115
Potatoes or Cucumber or Mint or Calabash Cucumber	... 55
Garam masala	... 1
Red chillie powder	... 1
Roasted cumin powder	... 1
Salt	... to taste

Method : Boiled potatoes are cut into small pieces and added to churned curd along with the other ingredients. If calabash cucumber is to be used, it should be grated, boiled, the water squeezed out and then added to churned curd. Cucumber and other vegetables are merely chopped and added to churned curd.

17. DAL WITH GREEN LEAFY VEGETABLE

	gm
Green Gram or Green Gram Dal or Bengal Gram Dal	...
	30
Spinach or Bathua or Chulai	... 100
Oil	... 5
Onion	... 15
Green chillies	... 3
Salt	... to taste
Water	... as required

Method: Dal is cleaned and boiled till slightly soft; green leafy vegetable, chopped green chillies and salt are added and cooked till very soft, mashed with ladle or churner and cooked again for a few minutes. Chopped onions are fried in oil and added to the curry.

18. BRINJAL BHURTHA

	gm
Brinjal	... 75
Tomato	... 30
Onion	... 30
Chillie powder	... 1
Coriander leaves	... 1
Garam masala	... 1
Oil	... 5

Method: Brinjal smeared with a little oil is roasted on fire, peeled, washed, mashed and kept aside. Chopped onions are fried, tomato is added and both are fried for a little while; chillie powder, salt and mashed brinjal added and fried till bhurtha does not stick to the sides of the pan; chopped coriander leaves and garam masala are then added.

19. RAPE LEAVES

	gm
Rape Leaves	... 85
Spinach	... 15
Ginger	... 5
Green chillies	... 3
Maize flour	... 3
Oil or ghee	... 3
Water	... as required
Salt	... to taste

Method: Rape leaves, spinach and green chillies are cut and cooked in plenty of water; extra is decanted off, salt added and the vegetable ground till finely mashed. Maize flour is added and cooked for about five minutes; fried ginger is added finally.

GARAM MASALA

	gm
Big cardamoms	... 115
Black pepper	... 230
Cumin	... 230
Coriander seeds	... 230
Cinnamon	... 15
Cloves	... 5

Method: The cumin seeds are roasted; the other cleaned condiments are dried in sun; cardamom is peeled and all ingredients powdered finely and stored in air-tight tins.

VADIAN

	gm
Black Gram Dal	... 230
Ash gourd	... 230
Black pepper	... 5
Red chillies	... 15
Ginger	... 30
Big cardamoms	... 5
Cloves and Cinnamon	... 2
Asafoetida	... a pinch

Method: Ash gourd is grated and the water squeezed out. Asafoetida is soaked in the ash gourd water.

The dal is soaked, ground and beaten with hand till it becomes frothy (*Test* : A small ball of the beaten dal when dropped in water, will float and not sink).

The dal, powdered spices and the prepared ash gourd are mixed well. Using the asafoetida water, the mixture is made into small balls which are sun-dried on a clean cloth. After dry, they are stored in air tight tins. They can be kept for several months.

Exchange List II

20. WHEAT PORRIDGE

	gm
Broken Wheat	... 85
Green Gram	... 30
Milk	... 115
Jaggery or sugar	... 30
Water	... as required

Method : Broken wheat is roasted in a pan ; green gram and water added and cooked till the grains are soft ; jaggery is mixed with water, strained to remove impurities and added to the above. The mixture is cooked till semisolid ; then removed from fire and hot milk is added.

Note : Instead of jaggery a little salt may be added while cooking. Sometimes this preparation can be consumed without milk. The nutritive value will however, be appreciably lower if milk is not included.

21. WHEAT PULSE LADOO

	gm
Roasted Bengal Gram Flour	... 30
Roasted Wheat Flour	... 30
Jaggery powder	... 15
Water or milk as binder	... as required

Method : All ingredients are mixed and made into small balls.

22. KHICHERI

		gm
Rice	...	30
Green Gram or Bengal Gram Dal	...	30
Water	...	as required
Salt	...	to taste

Method: Cleaned rice and dal are cooked in water with salt till the grains are soft and the water is absorbed. A little cumin is fried in ghee or oil and added towards the end (optional).

When Bengal gram dal is used, it should be partly cooked before rice is added.

23. PAKODI

		gm
Bengal Gram Flour	...	40
Vegetable (Brinjal, onion, potato, cauliflower, green leafy vegetables)	...	75
Oil (absorbed by pakodai)	...	15
Chillie powder	...	2
Salt	...	to taste
Water	...	as required

Method: Bengal gram flour, salt and chillie powder are mixed and made into a thin paste with water. Sliced vegetables are smeared with salt and chillie powder and kept for a few minutes; extra water of vegetables is discarded. The vegetables are dipped in the thin paste of Bengal gram flour and deep fried in oil.

24. DOSAI

		gm
Rice	...	55
Black Gram Dal	...	30
Oil	...	30
Salt	...	to taste
Water	...	as required

Method : Rice and dal are soaked separately in water overnight and finely ground together. The batter is mixed well, and salt and sufficient water added to make a thin paste which is then kept aside for a few hours to ferment. Ladlefuls are spread evenly over a heated iron plate on open fire, smeared with a little oil and cooked on both sides.

25. POTATO GULABJAMUN

	gm
Potato ...	55
Skimmed Milk Powder, or Khoa prepared from Skimmed Milk ...	30
Vanaspati (absorbed by Gulabjamun) ...	3
Jaggery ...	30
White flour ...	3
Butter ...	3
Baking powder ...	a small pinch
Water ...	as required

Method : Potatoes are boiled, mashed and mixed with white flour, skimmed milk powder, baking powder and butter to make a dough. The dough is divided into several small balls which are fried in vanaspati till dark brown, then left immersed in hot jaggery syrup for two hours.

26. DAHI VADAI

	gm
Curd ...	115
Green Gram or black Gram Dal ...	30
Oil (absorbed by Vadais) ...	10
Chillie powder ...	2
Roasted cumin powder ...	2
Garam masala ...	1
Salt ...	to taste

Method : Green gram dal is soaked overnight and ground well till it becomes frothy ; small portions are deep fried and soaked in salted water for a few minutes ; the vadais are pressed to remove water and oil and added to churned curd along with spices and condiments.

Note : These vadais can straightaway be put into sugar or aggerly syrup instead of curd. This preparation is known as Rasbarry.

27. AALU CHOLE

	gm
Kabuli or White Gram ...	55
Bengal Gram Dal ...	15
Potato ...	55
Onions ...	20
Ginger ...	3
Mango powder (Optional) ...	2
Chillie-powder ...	2
Green chillies ...	2
Tamarind pulp ...	5
Oil ...	3
Salt ...	to taste
Water ...	as required

Method : Gram and Bengal gram dal are soaked overnight and boiled till quite soft ; ground and fried onions, boiled dal, salt, chillie powder and boiled potatoes are mixed and cooked for a few minutes ; sliced ginger is added ; removed from fire ; whole green chillies, tamarind pulp and mango powder are added. There should be no gravy.

28. CALABASH CUCUMBER HALWA

	gm
Calabash Cucumber ...	75
Skimmed Milk ...	230
Sugar or brown sugar ...	30
Vanaspati ...	2

Method : Grated calabash cucumber is cooked with skimmed milk till very soft. Brown sugar is added and cooked further till all water is absorbed. Vanaspathi fat is added and stirred over a low fire till the halwa does not stick to the sides of the pan.

29. BASEN OMELETE

	gm
Bengal Gram Flour	... 55
Onion	... 15
Green chillies	... 3
Tomato (Optional)	... 30
Oil or hydrogenated fat	... 5
Salt	... to taste
Water	... as required

Method : Bengal gram flour is mixed with chopped onion, green chillies, salt and water to make a thin paste. Ladlefuls are spread evenly over heated iron plate smeared with a little oil and cooked on both sides.

30. MARUNDA

	gm
Roasted Wheat, or Roasted Groundnut, or Roasted Bengal Gram	... 30
Jaggery	... 30
Water	... to prepare syrup

Method I : In this preparation, roasted wheat or groundnuts or Bengal gram can be used alone or in mixtures. Jaggery is boiled with a little water till thick and frothy, the roasted wheat added, mixed well and made into balls.

Puffed rice and pop corn may be used and amount of jaggery increased according to taste.

Method II : (Suitable where roasted Bengal gram or groundnuts are available piping hot).

Hot, roasted Bengal gram or groundnuts are mixed with powdered jaggery and made into balls using a clean cloth.

31. POHE

	gm
Beaten Rice	... 55
Peas or Potatoes	... 55
Onions	... 20
Mustard seeds	... 1
Coconut (optional)	... 5
Oil	... 3
Sugar (optional)	... 2
Turmeric	... 1
Green chillies	... 2
Asafoetida (Optional)	... 1
Lime juice	... 5
Salt	... to taste
Water	... as required

Method: Sliced onion is browned in oil, powdered asafoetida, chopped green chillies and mustard seeds are added and fried for a few seconds. Peas along with salt, turmeric and water are added and cooked till soft. Beaten rice is cleaned and washed and added to the cooked peas and cooking continued for a few seconds; sugar is added and the whole removed from fire. Grated coconut and lime juice are added and mixed well.

32. FRUIT CHAAT

	gm
Banana	... 15
Potato (boiled)	... 30
Sweet potato (boiled)	... 30
Guava	... 15
Bilimbi	... 5
Lime or lemon juice	... 5
Chillie powder	... 2
Mango powder	... 2
Roasted cumin powder	... 1
Sugar (Optional)	... 2
Salt	... to taste

Method: All the fruits are cut into small pieces and mixed with spices; lime juice is added as required.

33. PURA

	gm
Wheat flour	55
Brown sugar or sugar	30
Aniseed	2
Vanaspathi	10
Water	as required

Method: Sugar is dissolved in water, wheat flour and aniseed are added to make a thin batter and kept aside for a few minutes. Ladlefuls are spread evenly over heated iron plate with a little vanaspathi and cooked on both sides.

34. SAGO VADAI

	gm
Potatoes	55
Sago	30
Green chillies	3
Coriander leaves	1
Oil (absorbed by vadais)	10
Salt	to taste

Method: Washed sago is soaked in just sufficient water for about half an hour to make the grains soft, and mixed with boiled, mashed potatoes, chopped green chillies, coriander leaves and salt; the mixture is divided into small balls, flattened between the palms of the hands and fried in oil till light brown.

35. KAMAN DHOKLA

	gm
Bengal Gram Dal Flour	55
Butter milk	140
Green chillies	3
Mustard seeds	1
Oil	3
Turmeric	2
Ginger	3
Asafoetida (Optional)	1
Coriander leaves	3
Cooking soda	1
Salt	to taste

Method: Bengal gram dal flour is soaked in buttermilk and allowed to ferment for eighteen to twenty-four hours depending upon the season; salt, turmeric, chopped ginger, soda and green chillies are added to the above and steamed till set (called Dhokla). Mustard seeds and asafoetida are fried in oil and poured over Dhokla which is then cut into small pieces. Coriander leaves may be added along with mustard.

36. GREEN GRAM LADOOS

	gm
Green Gram Dal	55
Jaggery	... 30
Coconut (Optional)	... 15
Water	... as required

Method: Green gram dal is roasted and powdered: a thick syrup prepared with jaggery, is mixed with the flour and made into small balls. Grated coconut or pieces of other nuts may be added before making the balls.

37. SPROUTED GREEN GRAM JAGGERY

	gm
Sprouted Green Gram	55
Jaggery	... 55
Water	... as required

Method: Green gram is soaked overnight, kept moist for two to three days so that it sprouts, then cooked with jaggery till all the water is absorbed.

38. DAHI CHIDWA

	gm
Beaten Rice	30
Curd	115
Jaggery	... 30

Method: Beaten rice (chidwa) is washed and kept for about five minutes to soften. Curd is churned, jaggery added then the soft beaten rice is added and mixed well.

39. SPROUTED GREEN GRAM

	gm
Sprouted Greem Gram ...	1
Chillie powder ...	1
Garlic (optional) ...	1
Pepper ...	1
Turmeric ...	1
Onion ...	5
Tamarind pulp ...	3
Mustard (optional) ...	1
Oil ...	3
Water ...	as required
Salt ...	to taste

Method: The sprouted green gram is steam-cooked. Garlic, onion, mustard and pepper are ground, fried and added to steamed, sprouted green gram along with other condiments and cooked till raw flavour disappears, No liquid should remain in this preparation.

40. SWEET POTATO PURA

	gm
Sweet Potato ...	115
Whole or refied Wheat Flour ...	10
(Atta or Maida)	
Sugar or brown sugar ...	15
Vanaspati (absorbed by puras) ...	10

Method: Boiled and mashed sweet potatoes are mixed with flour and brown sugar; made into small chapaties and fried till golden brown.

Part II

Menus for Mid-Day Meals and Snacks for School Children

In this part, a few menus which can be used for school lunch programmes are suggested. The menus given here do not involve elaborate processing and cooking and are based mostly on ingredients locally available and acceptable to the people. These menus provide about a third of the daily calorie requirement and about half of the protein requirement of the school going child.

It has been calculated that the cost of the ingredients for the lunch per child per day would be about 45 p. To this may have to be added the cost of fuel and preparation and service. If, however, free supplies of skim-milk are available through UNICEF, CARE or similar organizations, the cost will be less. Further, the amount of milk or buttermilk can be given in double the quantities indicated in such cases. The costing of the items has been made on the basis of the prices prevailing in Hyderabad city during August 1976. It is suggested that a part of the expenses may be borne by the parents and a part subsidised by the State governments.

The accompanying table shows the several menus with their calorie and protein value and cost along with the distinctive number of the recipes, details regarding the recipe appear in the following pages. It has sometimes been stated that snacks alone for mid-day meals may not be much appreciated. Hence the menus have been grouped under three heads. (1) Mid-day meals based on mixed cereals, (2) Mid-day snacks and (3) Meal-snack combinations.

Menus For Mid-day meals and snacks for school children

Menus	Programme of feeding	Calories	Protein gm.	Approximate cost P.
A. Mid-day Meals				
1. Maize Roti (1) + Rape leaves (2) + buttermilk (7)	For three days in week	380	16	36
2. Khicheri (2) + Curd (6) + Vegetable Bhujia (3)		400	18	50
3. Porridge (11) + Vegetable bhujia (3) + buttermilk (7)		480	22	51
4. Bajra cooked (10) + Curry (4)		430	15	26
5. Tandoor Ki Roti (8) + Aalu chole (5)		420	16	26
6. Missi Roti (9) + Curd (6)		560	17	41
B. Mid-day Snacks				
7. Wheat pulse laddoo (14) + buttermilk (7)		540	20	36
8. Toffee (21) + buttermilk (7)		430	22	62
9. Aalu Chole (5) + bread		370	14	38
10. Dahi Vadai (15)		470	30	62
11. Basen Omelete (13) + Toffee ($\frac{1}{2}$ quantity prescribed in (21) + butter milk (7)		452	27	51
12. Toffee ($\frac{1}{2}$ quantity prescribed in (21) + Aalu Chole ($\frac{1}{2}$ quantity prescribed in (5) + buttermilk (7)		450	22	42

13.	Sweet biscuit ($\frac{1}{2}$ quantity prescribed in (22) + Dahi vadai ($\frac{1}{2}$ quantity prescribed in (15))	440	27	56
14.	Potato gulab jamun ($\frac{1}{2}$ quantity prescribed in (16) + Dosai ($\frac{1}{2}$ quantity prescribed in (17))	460	13	44
15.	Basen omelete (13) + Toffee ($\frac{1}{2}$ quantity prescribed in (21))	420	23	57
16.	Fruit Chaat (20) + Wheat pulse laddoo ($\frac{1}{2}$ quantity prescribed in (14) + buttermilk (7))	430	13	43
17.	Marunda (18) + Khaman Dhokla (19)	560	27	55

C. Meal-Snack Combination

For two days in a week to begin with, if items under group B are not acceptable by themselves.

18.	Missi Roti (9) + Curd (6) + Sweet Biscuit ($\frac{1}{4}$ quantity prescribed in (22))	400	17	53
19.	Khicheri (12) + Curd (6) + Toffee ($\frac{1}{4}$ quantity prescribed in (21))	450	22	44
20.	Porridge ($\frac{1}{2}$ quantity prescribed in (11) + buttermilk (7) + Aalu chole (5))	440	22	34

The basis on which the cost has been worked out is: cereals 1.50 per kg., milk Rs. 2.00 per litre, pulses Rs. 2.50 per kg. The other foods have been calculated according to the rates prevailing in Hyderabad city during August 1976.

RECIPES

1. MAIZE CHAPATIE

	gm
Maize Flour	55
Oil	3
Salt	to taste
Hot Water	as required
Celery seeds	a little

Method : As for item 4, Part I, page 5.

2. RAPE LEAVES

	gm
Rape Leaves	85
Spinach	15
Maize flour	3
Ghee or Butter	3
Ginger	5
Green chillies	3
Salt	to taste
Water	as required

Method : As for item 19, Part I, Page 12.

3. VEGETABLE BHUJIA

	gm
Brinjals or Cauliflower or Cabbage or Calabash Cucumber or	
Ladies Finger or Tinda	75
Oil	5
Onion	15
Ginger (only for cauliflower)	3
Chillie powder	1
Coriander leaves	1
Turmeric	a little
Salt	to taste

Method : As for item 8. Part I, page 6.

4. CURRY

	gm
Bengal Gram Flour ...	10
Butter milk ...	275
Oil ...	2
Onions ...	15
Chillie-powder ...	1
Turmeric ...	1
Coriander seeds ...	1
Garam masala ...	1
Salt ...	to taste
Water ...	as required

Method: As for item 11, Part 1, page 8.

5. AALU CHOLE

	gm
Kabuli or White Gram ...	30
Potato ...	30
Oil ...	2
Bengal gram Dal ...	7
Onions ...	15
Ginger (Optional) ...	2
Chillie powder ...	1
Green chillies ...	2
Tamarind pulp ...	2
Mango powder (Optional) ...	a little
Salt ...	to taste
Water ...	as required

Method: As for item 27, Part 1, Page 16.

6. CURD

Skimmed Milk, Powder ...	15 gm
<i>ro</i>	
Skimmed Milk ...	180 ml
Water (to take milk) ...	90 ml
Curd ...	a little

Method: A little curd is added to luke-warm milk and kept overnight in a warm place.

7. BUTTER-MILK

Skimmed Milk Powder	...	7 gm.
<i>or</i>		
Skimmed-Milk, Fresh	...	90 gm
Curd	...	a little
Water	...	100 ml

Method: The curd is prepared, churned and diluted with water.

8. TANDOOR KI ROTI

		gm
Wheat Flour	...	55
Ghee or Butter	...	5
Water	...	as required

Method: As for item 2, Part 1, Page 4.

9. MISSI ROTI

		gm
Bengal Gram Flour	...	30
Wheat Flour	...	30
Fenugreek Leaves or Soya Leaves	...	85
Oil	...	3
Onions	...	5
Green chillies	...	2
Salt	...	to taste
Water	...	as required

Method: As for item 3, Part 1, Page 4.

10. BAJRA, COOKED

Bajra	...	85 gm
Water	...	as required

Method: As for item 5, Part 1, Page 5.

11. PORRIDGE

		gm
Broken Wheat	...	85
Green Gram Dal	...	30
Vanaspati	...	3

Cumin (Optional)	...	1
Salt	...	to taste
Water	...	as required

Method : As for item 20, Part, I, Page 13.

12. KHICHERI

		gm
Rice	...	40
Green Gram Dal or Bengal Gram Dal		40
Ghee	...	2
Cumin	...	1
Salt	...	to taste
Water	...	to prepare

Method : As for item 22, Part I, Page 14,

13. BASEN OMELETE

		gm
Bengal Gram Dal Flour	...	85
Oil	...	2
Onions	...	20
Green chillies	...	2
Tomato (Optional)	...	40
Salt	...	to taste
Water	...	as required

Method : As for item 29, Part I, Page 17.

14. WHEAT PULSE LADOO

		gm
Roasted Bengal Gram Flour	...	55
Roasted Wheat Flour	...	55
Jaggery powder	...	30
Water or milk as binder	...	as required

Method : As for item 21, Part I, Page 13.

15. DAHI VADAI

		gm
Curd (rom 30 gms. sklmmed-milk powder)	...	180
Green Gram Dal or Black Gram Dal	...	55

Oil (absorbed by vadais)	...	1
Chillie powder	...	1
Roasted cumin powder	...	1
Garam masala	...	1
Salt	...	to taste

Method : As for item 26, Part I, Page 15.

16. POTATO GULAB JAMUN

		gm
Potato	...	55
Skimmed milk powder or Khoa with Fresh		
Skimmed-milk	...	30
White flour	...	3
Vanaspathi (absored by gulabjamun)		3
Jaggery or Sugar	...	30
Butter	...	5
Baking powder or soda	...	a small pinch
Water	...	as required

Method : As for item 25, Part I, Page 15.

17. DOSAI

		gm
Rice	...	55
black Gram Dal	...	30
Oil	...	15
Salt	...	to taste
Water	...	as required

Method : As for item 24, Part I, Page 14.

18. MARUNDA

		gm
Roasted Wheat or Roasted		
Ground-Nut or Roasted Bengnl		
Gram	...	30
Jaggery	...	35
Water	...	a little

Method : As for item 30, Part I, Page 17.

19. KHAMAN DHOKLA

	gm
Bengal Gram Dal	30
Bengal Gram Powder	30
Buttermilk	140
Oil	2
Green chillies	2
Mustard seeds	1
Turmeric	1
Ginger	2
Asafoetida (Optional)	1
Coriander leaves	2
Salt	to taste

Method: Dal is soaked for 12 hours and ground; then mixed with Bengal gram dal flour and cooked as given for item 35, Part I, Page 19.

20. FRUIT CHAAT

	gm
Banana	30
Pototo (boiled)	30
Sweet potato (boiled)	30
Guava	30
Bilimbi	15
Lime	7
Chillie powder	1

Method: As for item 32, Part 1, Page 18.

21. TOFFEE

	gm
Roasted Bengal Gram Powder	15
Roasted Groundnut Powder	15
Jaggery Powder	20
Skim milk powder	30
Grated coconut	20
Water	as required

Method: Jaggery is made into thick syrup with boiling water, other ingredients are added, mixed well and spread evenly over a plate and cut into small cubes.

22. BISCUIT (SWEET)

		gm
Roasted Bengal Gram powder	...	15
Roasted Groundnut powder	...	15
Wheat flour	...	20
Skimmed-Milk powder	...	25
Vanaspati	...	5
Jaggery powder	...	20

Method: All ingredients are mixed and made into a stiff dough with water; dough is divided into small portions and each portion rolled out into a round flat biscuit; the biscuits are baked over heated iron plate till slightly golden brown. Biscuits may be baked in an oven if facilities are available.

For sweet biscuits, jaggery dissolved in water and strained is used, the dough being made with this jaggery syrup.

23. BISCUIT (SALTED)

		gm
Roasted Bengal Gram powder	...	15
Roasted Groundnut powder	...	15
Wheat flour	...	40
Skimmed-Milk powder	...	25
Vanaspati	...	5
Salt	...	to taste

Method: As for item 22, above,

APPENDIX

CEREALS

*English**Hindi*

1. Beaten rice	...	Chidwe
2. Bengal gram dal flour	...	Basen
3. Broken wheat	...	Dalia
4. Maize	...	Makki
5. Pop corn	...	Phoole
6. Rice	...	Chawal
7. Puffed rice	...	Murmure
8. Roasted Bengal gram	...	Bhune hue chane
9. Sago	...	Saboodana
10. Wheat	...	Gehun
11. Wheat flour refined	...	Maida
12. Wheat flour, whole	...	Atta

PULSES

1. Bengal gram dal	...	Chane ki dal
2. Black gram dal	...	Urd ki dal
3. Black gram, whole	...	Sabut urd
4. Green gram dal	...	Moong ki dal
5. Green gram	...	Sabut moong
6. Lentil	...	Massor ki dal
7. White gram	...	Kabuli chane or Safed chane

VEGETABLES

1. Large, round brinjal	...	Bara gole baingan
2. Brinjal	...	Baingan
3. Cabbage	...	Bund gobhi
4. Calabash cucumber	...	Lauki or Gheia
5. Coriander leaves	...	Hara dhania
6. Carrot	...	Gajar
7. Cucumber	...	Kheera
8. Fenugreek leaves	...	Methi
9. Green mango	...	Kacha aam
10. Ladies finger	...	Bhindi
11. Mint	...	Pudina
12. Onion	...	Pyaj
13. Peas	...	Matar

	<i>English</i>		<i>Hindi</i>
14.	Potato	...	Aalu
15.	Rape leaves	...	Sarson
16.	Spinach	...	Palak
17.	Sweet potato	...	Shakarkandi
18.	Tomato	...	Tamator
19.	Turnips	...	Shalgam

FRUITS

1.	Banana	...	Kela
2.	Bilimbi	...	Kamrak
3.	Guava	...	Amrood
4.	Lime	...	Nimbu
5.	Orange	...	Santra or Narangi

CONDIMENTS

1.	Aniseed	...	Saunf
2.	Asafoetida	...	Hing
3.	Big cardamom	...	Bari elaichi
4.	Black cumin	...	Kala zeera
5.	Celery seeds	...	Ajwain
6.	Chillie powder	...	Lal mirch
7.	Chillie green	...	Hari mirch
8.	Cinnamon	...	Dalchini
9.	Cloves	...	Laung
10.	Coriander seeds	...	Dhania
11.	Cumin	...	Zeera
12.	Dried pomegranate seeds	...	Anaardana
13.	Garlic	...	Lasan
14.	Ginger	...	Adrak
15.	Mustard seed	...	Rai
16.	Pepper	...	Kali mirch
17.	Salt	...	Namak
18.	Tamarind	...	Imli
19.	Turmeric	...	Haldi

MILK

1.	Buttermilk	...	Lassi
2.	Curd	...	Dahi
3.	Milk	...	Doodh

*English**Hindi*

4. Skimmed-milk	...	Makhan nikala hua doodh
-----------------	-----	----------------------------

MISCELLANEOUS

1. Brown sugar	...	Shakar
2. Coconut	...	Narial
3. Jaggery	...	Gur
4. Oil	...	Tel
5. Roasted groundnuts	...	Bhuni hue moongphalli
6. Sugar	...	Chini
7. Vanaspathi	...	Jamaya hua tel
Hydrogenated fat		



COMMUNITY HEALTH CELL
326, V Main 1 Block
Koramangala
Bangalore-560034
India

